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ABSTRACT

This study investigated factors that affected stress, burnout, and job satisfaction among Hong Kong high school teachers. First, the researchers interviewed former Hong Kong teachers to determine possible teacher stress sources. On the basis of their suggested list of stress sources, the researchers created a questionnaire that included items specific to the Hong Kong situation. The six teacher stress sources were: students (misbehavior and undesirable attitudes); others (supervisors and inspectors); curriculum (exam demands); duty (nonteaching duties); teaching (time constraints and work output); and recognition (lack of recognition for teaching and administrative tasks). The three teacher burnout constructs were stress arousal, energy conservation, and exhaustion. A group of 259 high school teachers from Hong Kong responded to the survey, which examined sources of stress, burnout, and job satisfaction. Data analysis indicated that all six of the stress sources significantly related to all of the burnout outcomes. Among the six stressors, teacher workload was the strongest determinant of teacher burnout. The students and others factors had the strongest impacts on job satisfaction. (Contains 42 references.) (SM)

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Hong Kong Teachers' Sources of Stress, Burnout, and Job Satisfaction

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Abstract

High school teachers from Hong Kong (N = 259) responded to a survey on sources of stress, burnout, and job satisfaction. Confirmatory factor analysis identified 6 teacher stress sources: Students (misbehavior and undesirable attitude), Others (supervisors, inspectors), Curriculum (exam demands), Duty (nonteaching duties), Teaching (time constraints and work output), and Recognition (lack of recognition for teaching and administrative tasks); and 3 teacher burnout constructs: Stress arousal, Energy conservation, and Exhaustion. The paths from Teaching to all 3 burnout measures were substantial and positive whereas Student, Others, and Recognition had substantial negative impacts on job satisfaction. To avoid wastage of human resources in the teaching profession, it is important for teachers to be aware of the undesirable impacts of stress sources on their physical and psychological well-being.

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Stress in the workplace can be a serious problem that degrades productivity and cost-effectiveness of organizations. Recent research findings have suggested that undue stress perceived by workers in various occupations may cause burnout and may perhaps result in eventually quitting from the job. For example, Su (1997) has suggested that emotional aspects such as stress and frustration may be major causes for teachers leaving the teaching career. The stress of teachers and other educational practitioners is a serious concern because their burnout and avoidance of exerting an effort in the education of their students may have a serious negative impact on the academic development as well as personal well-being of the younger generation. Teachers, in particular, who bear the responsibility of providing education for often 30 or more students at a time, could have serious influence on these young people at the most critical stage of human growth. Thus, teacher stress and burnout are important issues that should warrant serious attention in teacher education programs. It is essential for teachers entering the profession to be aware of the potential sources of stress and their impacts on their psychological well-being. The questions to pursue in this study are: (a) what factors constitute teachers' work stress, and (b) which stress factors contribute to teacher burnout.

Factors of Teacher Stress

The problem of teacher stress has attracted great concern over the past decades (e.g., Borg, 1990; Borg et al., 1991; Chan, 1998; Chaplain, 1995; Kyriacou & Sutcliffe, 1978). Some researchers have suggested that up to one-third of the teachers tend to regard their job as stressful (Borg & Falcon, 1989; Kyriacou & Sutcliffe, 1979; Solman & Feld, 1989). According to Kyriacou & Sutcliffe (1978), teacher stress may be defined as responses to the negative effects of the job in terms of anger and depression due to aspects of the teacher's job that are perceived as threat to physical and psychological well-being. Teacher stress is an

important issue because it tends to have a noticeable impact on most teachers (Borg et al., 1991).

Previous exploratory factor analytic studies have identified several major components of teacher stress among which pupil misbehavior, time and resources constraints, professional recognition, relations with others; curriculum demand and workload were found to be important factors (e.g., Borg et al., 1991; Boyle et al., 1995; Chaplain, 1995; Kyriacou & Sutcliffe, 1978; Laughlin, 1984; Manthei & Solman, 1988; Okebukola & Jedege, 1989). Among various factors identified in various careers, two factors -- workload and time and resources constraints -- seem to be the most commonly reported (e.g., Grieve, 1997; Harri, 1997; Hillhouse & Adler, 1997; Huebner & Mills, 1997; Prosser, Johnson, Kuipers, Szmuckler, Bebbington, & Thornicroft, 1997; Vanwijk, 1997). Chan (1998), in his study on the relations of teacher stress to coping strategies and psychological distress, has also identified workload/time pressure as one of five major teacher stressors. Thus, on the basis of the findings in education and other fields, there is reason to anticipate that workload and time and resources constraints as teacher stress sources are particularly strong determinants of other outcomes, such as teacher burnout that is considered below.

Relationship Between Work Stress And Burnout

Prolonged teacher stress may lead to the emergence of a syndrome known as teacher burnout which is often characterized by physical, emotional and attitudinal exhaustion (Kyriacou & Sutcliffe, 1978). Researchers have proposed different operationalizations of burnout measures. For example, in terms of health conditions, Girclano, Everly Jr., & Ousek (1993) proposed a 3-stage measure of burnout, suggesting that an employee tends to experience "stress arousal" at the initial stage of burnout, and may proceed to the second stage known as "energy conservation" when the employee avoids putting in an effort, and finally the

third stage of "exhaustion" that is characterized by numerous symptoms of serious health problems.

Research findings have indicated a close relationship between work stress and burnout in various occupations (e.g., Goldberg et al., 1996; Prosser et al., 1997; Samuelsson, Gustavsson, Petterson, Arnetz, & Asberg, 1997; Westman, 1996; Wykes, Stevens, & Everitt, 1997). Despite potential differences across various occupations, the relations of some of the stress factors to burnout seem to be generic. For example, in their study of nursing assistants, Novak and Chappell (1996) found that workload was one of the major factors affecting burnout. Similarly, Zohar (1997) suggested that burnout is primarily an outcome of daily work demand. Cordes, Dougherty, and Blum (1997), testing 354 human resource professionals, demonstrated a significant path from work overload to burnout. These findings suggest strong links between workload and burnout.

In a study of health-care professionals, Dejonge, Janssen, and Vanbreukelen (1996) associated job demands, levels of autonomy, and social support level with burnout. Thus, in addition to workload, pressure from significant others may be a substantial source of stress that is associated with burnout. In support of this finding, Greenglass, Burke, and Konarski (1997) found that greater support from co-workers decreased burnout; whereas in a study on stress and burnout in sports, Udry, Gould, Bridges, & Tuffey (1997) found that athletes who often received negative feedback from significant others experienced higher levels of stress and burnout. Other researchers have also indicated that supervisor's support and recognition from others are negatively related to employees' burnout (e.g., Kyrouz & Humphreys, 1997; Melchior et al., 1997; Steen, Naess, & Steen (1997).

On the basis of these findings, the important stress factors that may lead to burnout may be summarized as sources from within the nature of the job and from significant others. In the context of teacher stress and burnout, the stress sources due to the nature of the job itself may

come from the curriculum demands, the daily teaching, and other duty commitments, whereas the stress sources due to pressure from significant others may come from the students, people other than the students, such as the parents, senior staff, and inspectors, and finally from a lack of recognition and appreciation from significant people such as the principal.

Job Satisfaction

Although not a major focus of the present study, the relation of teacher stress to job satisfaction is also a relevant concern. In their meta-analysis of 330 studies, Thompson et al. (1997) found that the largest mean effect sizes were between overall job satisfaction and both role ambiguity and role conflict. Although there are numerous factors that may influence teacher job satisfaction, ultimately, the teacher's role is providing education for students together with other personnel. Because stress sources directly related to the nature of the job (i.e., teaching) are less likely to cause role conflict, thus based on Thompson et al., stress factors related to external pressure from other people were expected to be negatively associated with teacher job satisfaction.

Based on the review above, we hypothesized that (a) the work stress items considered here would form six distinct constructs; (b) the items about teacher burnout would form three distinct constructs; (c) all six stress factors would have significant relations to all three burnout constructs; and (d) among other constructs, workload and time pressure factors would be the strongest contributing factors to teacher burnout.

Method

The Sample

A total of 261 teachers from 13 high schools (134 males and 127 females) in different regions of Hong Kong responded to the questionnaire designed for the present purpose. Schools in Hong Kong were categorized into five bands (highest ability in Band 1 to lowest ability in Band 5) on the basis of the achievement scores of students recruited into the first

high school year (7th grade). In this sample, there were 51, 53, 43, 36 and 78 teachers from schools of respective bands.

Materials

Teacher Stress Factors

Because research on teacher stress and burnout has been conducted mainly in western countries, in addition to adapting some of the relevant factors found in previous studies, we started by investigating elements that may be specific to Hong Kong where a highly competitive Asian educational system exists. We assumed that an assessment of teacher stress without considering possible stressors specific to the local situation may undermine findings purely based on constructs established in studies in rather different educational systems. To this end, interviews were held with 20 former teachers from different types of high schools, who had migrated to Sydney, Australia. They were asked to freely list and describe all possible sources of stress they perceived when teaching in Hong Kong. As expected, stressful events such as unreasonably high expectations from parents, principals and students; expectations of students' success in public examinations, and the principal and his or her delegates checking whether the teachers have properly marked students' assignments are phenomena found perhaps uniquely in Hong Kong. Subsequent to these interviews and based on an extensive review of previous studies and Kyriacou and Sutcliffe (1978) in particular, we designed a questionnaire with six major stress sources including these items that are specific to Hong Kong high schools (see Appendix). Particularly for the workload measures, due to the extremely high demands of duties beyond daily teaching routines, we distinguished between teaching and nonteaching duties. The nonteaching duties usually involve commitments beyond normal school hours, spans over the school year, and often require work during days-off. In sum, among the six stress sources considered here, the three factors relating to pressure due primarily to the job nature were:

Curriculum. Five items asked about pressure due to curriculum and exam demands.

Teaching. Four items asked about pressure due to time constraints and work output in daily teaching.

Duty. Four items asked about non-teaching duties, such as extra-curricular activities.

And three factors relating to pressure from significant others were:

Student. Six items asked about pressure due to students' misbehaviors and attitudes.

Others. Five items asked about pressure from other people, such as school administrators, parents and inspectors from the Education Department.

Recognition. Two items asked about perceived recognition for teaching and administration.

Teachers responded to these items in response to the question "As a teacher, how great a source of stress are these to you?" on a 5-point scale (1 = no stress to 5 = extreme stress).

Burnout Constructs

The burnout level of teachers were measured by 29 items adopted from an instrument described by Girclano et al. (1993) that measured three stages of burnout: Stage 1, stress arousal (10 items), stage 2, energy conservation (11 items), and stage 3, Exhaustion (8 items) that are assumed to occur sequentially. Teachers rated these items in response to the question "How often did you experience the following troubles and health problems during the past three months?" on a 5-point scale (1 = almost never to 5 = always).

Job Satisfaction

Teachers responded to the question "Overall, how satisfied are you with teaching as a job?" on a 5-point scale (1 = very dissatisfied to 5 = very satisfied).

Procedure

The questionnaires were distributed to over 500 teachers in the first half of the academic year before the term-break. A total of 261 completed questionnaires were received (a return

rate of 53.4%). However, due to missing data, the sample for the analyses presented here is 259.

Statistical Analysis

Because the stress items were newly designed, we first conducted principal component analysis followed by confirmatory factor analysis (CFA) for the six a priori Stress factors. For the well established Girclano et al. (1993) Burnout constructs, to reduce the number of measured variables to a manageable amount, items were paired up to form item parcels such that the first two items form the first item parcel, the next two formed the second item parcel, and so on. For Energy Conservation that had 11 items, the last three items formed the fifth item parcel for that construct. Thus, the 26 teacher stress items, 14 item parcels for teacher burnout, and 1 item for job satisfaction yielded a 41 x 41 covariance matrix for CFA. The approach of CFA and the use of item pairs have been described elsewhere (e.g., Bollen, 1989; Byrne, 1998; Joreskog & Sorborm, 1993; Marsh, 1994; Pedhazur & Schmelkin, 1991) and are not further detailed here. Analyses were conducted with the SPSS version of LISREL (Joreskog & Sorbom, 1993). The goodness of fit of models is evaluated based on suggestions of Marsh, Balla, and McDonald (1988) and Marsh, Balla, and Hau (1996) with an emphasis on the Tucker-Lewis index (TLI) as well as the chi-square test statistic and the relative noncentrality index (RNI).

Structural equation models based on these factors were then used to examine the paths (a) from each of the six stressors to the three burnout constructs and job satisfaction (Figure 1a), and (c) from all six stressors to all four outcomes (Figure 1b).

Results

Preliminary Analysis

The reliability of each stressor and burnout construct was good (alpha coefficients were .86, .87, .88, .78, .78, and .81 for the Student, Others, Curriculum, Duties, Teaching, and

Recognition teacher stress constructs and .84, .81, .87 for the Stress Arousal, Energy Conservation and Exhaustion constructs, respectively). Principal component analyses conducted for the teacher stress items with Varimax rotation yielded six distinct factors as expected, explaining 66.3% of the total variance. The factor loadings ranged from .54 to .85. These results provided preliminary support for the Stress constructs considered in this study. Subsequent confirmatory factor analyses were conducted on the basis of 6 teacher stress sources: Student, Others, Curriculum, Duty, Teaching, and Recognition, 3 teacher burnout constructs: Stress arousal, Energy conservation, and Exhaustion, and 1 job satisfaction response (a single item construct).

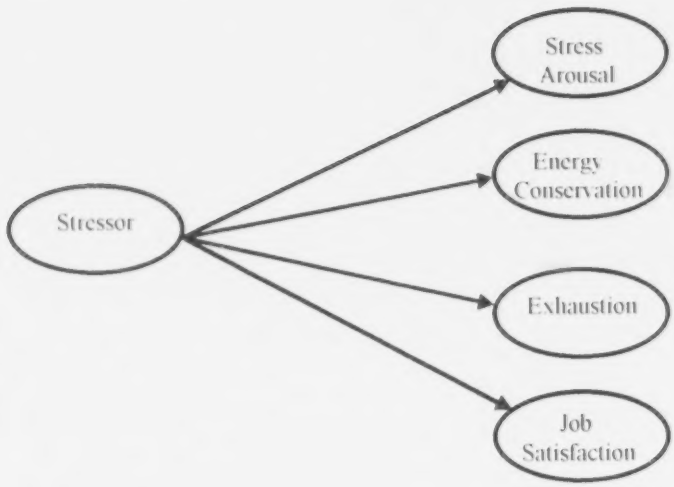
Confirmatory Factor Analysis

CFAs were conducted for a 6-factor model for the Stress constructs and a 4-factor model for the Burnout constructs respectively with (Models B and D) or without (Models A and C) correlated uniquenesses (Table 1). The models (B and D) with correlated uniquenesses resulted in comparatively better fit (TLI > .9). Thus Model B for the Stress constructs had a total of three correlated uniquenesses and Model D for the Burnout constructs had four correlated uniquenesses included in the model. It is however important to note that the inclusion of these correlated uniqueness terms did not affect the parameter estimates of subsequent path models that are the main concern of the present study. The constructs identified in Models B and D with the correlated uniquenesses included in these models formed the basis for subsequent structural models. To summarize, Models B and D provided support for the construct validity of the Stress and Burnout factors considered here. The factor loadings were substantial whereas the uniquenesses were relatively small. Because the parameter estimates were similar between these models and the full model (Model 7), we present only the solution of Model 7 in Table 2.

Path Models Relating Each Stress Source to Four Outcomes

To test whether each stress source had significant impacts on teacher burnout and job satisfaction, structural models 1 to 6 were examined separately (Figure 1a). All the models considered in the present study (summarized in Table 1) provided good fit to the data (TLI > .9). A summary of the path coefficients in Table 1 shows that consistent for all six stressors, the paths from each stressor to all three burnout constructs were statistically significant, indicating that all six sources of stress had a significant impact on teacher burnout. However, stress sources due to student's behavior, significant others, and lack of recognition of good work also had significantly negative relations to job satisfaction.

(a)



(b)

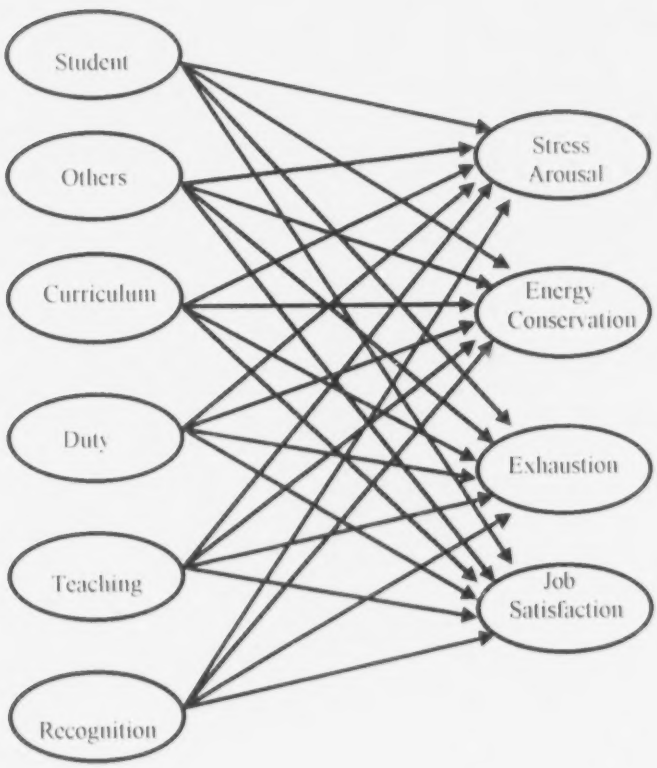


Figure 1. Path models: (a) Models 1 to 6 related each stressor (Student, Others, Curriculum, Duties, Teaching, and or Recognition) to the four outcomes. (b) Models 7 related all six stressors to all four outcomes. Except for Job Satisfaction, all factors had multiple indicators.

The Full Model Relating All Stressors to All Outcomes

The final model (Model 7) including all the variables considered in this study showed that the factor loadings were substantial and statistically significant (ranging from .40 to .94) and the corrlations among the constructs were moderate, thus supporting the construct validity of the Stress and Burnout factors. The path coefficients showing the relative impacts of each stressor after controlling the effects of all other stressors indicate that among the six stress sources, Teaching tended to have the strongest impact on Burnout (Table 2). This implies that relative to the other five stress sources considered here, workload, time and resources constraints contributed most to teacher burnout. Similarly, relative to the other stress sources, lack of recognition also had significant impact on the Exhaustion component of Burnout. As expected, stress sources from significant others such as students, parents, inspectors and the principal had significantly negative impacts on teacher job satisfaction, that were stronger than the other stressors. These impacts were so strong that the negative impacts of some other stressors found in Models 1 to 6 in which they were considered separately became statistically nonsignificant (-.15 vs. -.08 for Recognition) or even positive (-.02 vs. .32 for Teaching, -.07 vs. .04 for Duty) when considered all together.

Discussion

In the present study, we first identified possible teacher stress sources by interviewing former Hong Kong teachers. On the basis of their suggested lists of stress sources, we included items that are specific to the Hong Kong situation in our survey distributed to serving Hong Kong teachers. We identified six major stress factors that can be divided into two major categories: one pertaining to the job nature and the other pertaining to pressure from significant others. Principal component analysis and CFA models clearly identified the six stress factors. To related the stress factors to teacher burnout, we included the burnout measures in health-related terms proposed by Girclano et al. (1993) which clearly yielded three

a priori factors. A series of structural models were then tested to examine the relationship of the stress factors to teacher burnout and teacher satisfaction. The results indicated that all the six stress sources were significantly related to all the burnout outcomes; that among the six stressors, teaching workload was the strongest determinant of teacher burnout in all three outcome measures, and that the Student and Others factors had the strongest impacts on job satisfaction.

These findings have important implications for teacher education and educational management policy making as well as for the teachers' personal well-being. Whereas stress management has gained increasing attention in various fields, the first step is necessarily the identification of the most substantial source of stress on which intervention programs should focus. The present study attempted to provide an answer to this question in the teaching profession, especially in a Hong Kong context where teaching load and expectations from others have always been high. The results are reasonably consistent with a prior predictions that stress sources directly related to the nature of the teaching profession had strong impacts on teacher burnout whereas stress sources from significant others were particularly detrimental to teacher job satisfaction. Because the burnout measures were primarily based on health issues, these results indicate that whereas stress sources related both to the job nature and the potential pressure from significant others tend to lead to health-related problems, the heavy workload experienced by the Hong Kong teachers that is directly related to the daily teaching routine tends to be the most detrimental.

Teaching workload as the most salient stressor contributing to teacher burnout warrants serious consideration by personnel managers and by teacher educators offering programs to teachers under training and in service. As suggested by Wykes, Stevens, and Everitt (1997), levels of stress and burnout should be included in evaluations of the cost-effectiveness of institutions. Undue heavy teaching load that has the potential of leading to health problems

and feelings of burnout may result in chronic illness, reduced effort, and even attrition and quitting from the job. In terms of cost-effectiveness of the education system, there is the potential of wastage in human resources. Particularly in the Hong Kong situation where all other sources of stress also have significant impacts on teacher burnout, there seems to be an urgent necessity for reducing the teaching load by perhaps reducing class sizes, improving the teacher-student ratio, and reducing the hours of work. To teacher educators, as James (1997) has suggested, there is an urgent need for the inclusion of stress management programs for both potential teachers under training and inservice teachers who have already suffered from stress.

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Table 1

Model Series 1: Goodness of Fit Summary and Critical Path Coefficients

Measurement Models	χ^2	df	RNI	TLI
A. 6 Stress no CU	619.92	284	.897	.882
B. 6 Stress CU	492.71	281	.935	.925
C. 3 Burnout no CU	266.59	74	.890	.864
D. 3 Burnout CU	186.93	70	.933	.913

					From	To Outcomes in Column			
Path Models					Source	Stres	Energ	Exhau	Satis
Model 1	338.36	175	.934	.921	Student	.48*	.36*	.43*	-.21*
Model 2	318.16	156	.933	.918	Others	.43*	.41*	.41*	-.15*
Model 3	301.31	156	.942	.930	Curriculum	.41*	.32*	.36*	.01
Model 4	290.59	139	.927	.910	Duty	.47*	.32*	.39*	-.07
Model 5	305.02	139	.923	.905	Teaching	.66*	.59*	.55*	-.02
Model 6	248.06	106	.928	.907	Recogn	.38*	.31*	.42*	-.15*
Model 7	1175.06	728	.915	.904	Student	.14	.01	.09	-.27*
					Others	.02	.16	.12	-.24*
					Curriculum	-.07	-.13	-.02	.00
					Duty	.02	-.22	-.09	.04
					Teaching	.57*	.66*	.42*	.32*
					Recogn	.05	.12	.20*	-.08

Note. N = 259. RNI = Relative noncentrality index. TLI = Tucker-Lewis index. The sources of teacher stress were Student Behavior (Student), Pressure from others (Others), Curriculum, Duty, Teaching, and Recognition (Recogn). The outcome variables were Job satisfaction (Satis) and teacher burnout in the form of Stress arousal (Stres), Energy conservation (Energ) and Exhaustion (Exhau). The χ^2(df) values of respective null models to calculate RNI and TLI values were 3584.54(325) for Models A and B, 1834.25(91) for Models C and D, and 2690.51(210), 2607.75(190), 2711.00(190), 2233.58(171), 2320.68(171), and 2100.56(136) for Path Models 1 to 6. * $p < .05$

Table 2. Solution of Model 7

Variables	Factor Coefficients										Uniq
	Stud	Othr	Curr	Duty	Teac	Teco	Strs	Ener	Exha	Satis	
Stud1	.73*	0	0	0	0	0	0	0	0	0	.47*
Stud2	.76*	0	0	0	0	0	0	0	0	0	.42*
Stud3	.77*	0	0	0	0	0	0	0	0	0	.41*
Stud4	.77*	0	0	0	0	0	0	0	0	0	.40*
Stud5	.53*	0	0	0	0	0	0	0	0	0	.72*
Stud6	.60*	0	0	0	0	0	0	0	0	0	.64*
Othr1	0	.69*	0	0	0	0	0	0	0	0	.52*
Othr2	0	.74*	0	0	0	0	0	0	0	0	.45*
Othr3	0	.68*	0	0	0	0	0	0	0	0	.53*
Othr4	0	.81*	0	0	0	0	0	0	0	0	.34*
Othr5	0	.78*	0	0	0	0	0	0	0	0	.40*
Curr1	0	0	.94*	0	0	0	0	0	0	0	.12*
Curr2	0	0	.69*	0	0	0	0	0	0	0	.52*
Curr3	0	0	.59*	0	0	0	0	0	0	0	.65*
Curr4	0	0	.83*	0	0	0	0	0	0	0	.31*
Curr5	0	0	.72*	0	0	0	0	0	0	0	.47*
Duty1	0	0	0	.63*	0	0	0	0	0	0	.60*
Duty2	0	0	0	.74*	0	0	0	0	0	0	.45*
Duty3	0	0	0	.66*	0	0	0	0	0	0	.56*
Duty4	0	0	0	.65*	0	0	0	0	0	0	.57*
Teac1	0	0	0	0	.76*	0	0	0	0	0	.42*
Teac2	0	0	0	0	.63*	0	0	0	0	0	.60*
Teac3	0	0	0	0	.65*	0	0	0	0	0	.58*
Teac4	0	0	0	0	.69*	0	0	0	0	0	.53*
Peco1	0	0	0	0	0	.79*	0	0	0	0	.37*
Peco2	0	0	0	0	0	.86*	0	0	0	0	.26*
Strs1	0	0	0	0	0	0	.63*	0	0	0	.60*
Strs2	0	0	0	0	0	0	.65*	0	0	0	.57*
Strs3	0	0	0	0	0	0	.75*	0	0	0	.44*
Strs4	0	0	0	0	0	0	.66*	0	0	0	.56*
Strs5	0	0	0	0	0	0	.71*	0	0	0	.49*
Ener1	0	0	0	0	0	0	0	.59*	0	0	.65*
Ener2	0	0	0	0	0	0	0	.70*	0	0	.51*
Ener3	0	0	0	0	0	0	0	.77*	0	0	.40*
Ener4	0	0	0	0	0	0	0	.73*	0	0	.47*
Ener5	0	0	0	0	0	0	0	.40*	0	0	.84*
Exha1	0	0	0	0	0	0	0	0	.81*	0	.35*
Exha2	0	0	0	0	0	0	0	0	.73*	0	.47*
Exha3	0	0	0	0	0	0	0	0	.80*	0	.35*
Exha4	0	0	0	0	0	0	0	0	.72*	0	.47*
Satis	0	0	0	0	0	0	0	0	0	1	0
Path Coefficients (From column to row variables)											
Strs	.14	.02	-.07	.02	.57*	.05					
Ener	.01	.16	-.13	-.22	.66*	.12					
Exha	.09	.12	-.02	-.09	.41*	.20*					
Satis	-.27*	-.24*	.00	.04	.32*	-.08					
Correlations Among Factors											
Stud	--										
Othr	.43*	--									
Curr	.36*	.48*	--								
Duty	.50*	.62*	.47*	--							
Teac	.55*	.61*	.68*	.64*	--						
Peco	.58*	.33*	.30*	.54*	.41*	--					
Strs	.48*	.43*	.41*	.47*	.65*	.37*	--				
Ener	.36*	.41*	.33*	.31*	.58*	.30*	.82*	--			
Exha	.43*	.41*	.37*	.39*	.55*	.41*	.83*	.88*	--		
Satis	-.21*	-.15*	.01	-.07	.03	-.15	-.21*	-.19	-.24*	--	
Residuals	1	1	1	1	1	1	.55*	.62*	.65*	.89*	

Note. N = 259. The sources of teacher stress were Student Behavior (Stud), Pressure from others (Othr), Curriculum (Curr), Non-teaching Duties (Duty), Teaching Workload (Teac), and Lack of Recognition (Reco). The outcome variables were Job satisfaction (Satis) and teacher burnout in the form of Stress Arousal (Strs), Energy Conservation (Ener) and Exhaustion (Exha). The χ^2(df) value of the respective null model was 6066.42(820). * $p < .05$

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Appendix

Items Used in the Questionnaire

Factor	Item
Student	Students submit their homework late
	Poorly motivated students
	Students' general low ability
	Students refuse to do homework
	Noisy class
	Maintaining class discipline
Others	High expectations from parents (e g , good academic results)
	Pressure from Education Department inspectors
	High expectations from the Principal (e g , good academic results)
	Panelchair's/Principals regular checks on students' assignments marked by the teacher
	Pressure from panelchair, senior staff and the Principal
Curriculum	Overloaded syllabus
	Responsible for students' public exam results
	Give high form students extra lessons to prepare them for public exams
	Ill-defined syllabus
	Difficult to complete syllabus in time
Duties	Covering lessons for absent teachers
	Attending school meetings after school
	Too much work relating to extra-curricular activities
	Supervisory duties (e g , playground, hall)
Teaching	Fast pace of school day
	Lack of time to prepare lessons
	High self-expectations (e g , good performance in teaching)
	Too much time in marking (e g , exercises, composition)
Recognition	Lack of recognition for good teaching
	Lack of participation in decision making